

REMARKS

Claims 76-127, 132, 134, 135 and 138-146 are pending. Claims 76-86, 90, 92-99, 103, 105-127, 132, 134, 135, 138-140 and 142-146 are under examination. Claims 121, 138 and 142-144 have been amended. New claims 147 and 148 have been added. Support for the amendments and new claims can be found throughout the specification and the claims as filed. In particular, support for the amendment to claim 142 can be found, for example, on page 13, line 22, to page 14, line 4, and page 18, lines 14-27. Support for new claims 147 and 148 can be found, for example, in original claim 86 and on page 22, lines 25-27. Accordingly, these amendments and new claims do not raise an issue of new matter and entry thereof is respectfully requested.

Applicants bring to the Examiner's attention co-pending application serial No. 10/477,619.

Rejections Under 35 U.S.C. § 112, Second Paragraph

The rejection of claims 121-127, 132, 135 and 138-146 under 35 U.S.C. § 112, second paragraph, as allegedly indefinite is respectfully traversed. Applicants respectfully submit that the claims are clear and definite.

In the Office Action, claim 142 is indicated to be indefinite because it is unclear what is meant by "two compositions." Claim 142 has been amended to recite a first and second composition, each of which has the recited structure. Further, with respect to claims 143 and 144 and the recitation of "one of said compositions," claims 143 and 144 have been amended to recite that the first composition is differentially isotopically labeled with deuterium and ¹³C, respectively. Applicants respectfully submit that the meaning of a composition containing a first and second composition having the recited structure would be clear to one skilled in the art.

Claims 121, 138 and 142 are asserted in the Office Action to be unclear for the term "leucyl group." Applicants respectfully submit that the term "leucyl group" is a well known term of art for the amino acid side chain of leucine. As evidence that a "leucyl group" would be readily understood by those skilled in the art, attached as Exhibit 1 is page 95 of Lehninger, Biochemistry 2nd ed., Worth Publishers, Inc., New York (1975). Shown in Figure 5-1 of Exhibit

“Serylglycyltyrosylalanylleucine,” clearly showing the convention that amino acid side chains are designated “amino acid-yl.” Accordingly, Applicants respectfully maintain that one skilled in the art would readily understand the term “leucyl group” in reference to the recited structure.

The Office Action indicates that claims 132, 134 and 135 are unclear for depending from canceled claims. Claims 132 and 135 have been amended to depend from pending claim 94.

Claims 121, 138 and 142 are alleged to be indefinite for reciting that the leucyl group “is” an isotope tag. Claims 121 and 138 have been amended as suggested by the Examiner to recite that the leucyl group “contains” an isotope tag.

Applicants respectfully submit that the claims are clear and definite. Accordingly, Applicants respectfully request that this rejection be withdrawn.

Rejection Under 35 U.S.C. § 112, First Paragraph

The rejection of claims 142-144 under 35 U.S.C. § 112, first paragraph, as allegedly lacking written description is respectfully traversed. Applicants respectfully maintain that the specification provides sufficient description and guidance for the claimed compositions.

As discussed above, claim 142 has been amended to recite a composition containing a first and second composition, where each of the first and second compositions have the recited structure. Applicants respectfully maintain that the specification provides sufficient description and guidance for the recited “first and second compositions.” In particular, the specification teaches that heavy and light mass labels can be used to differentially label molecules and that mass labels suitable for differentially labeling two samples are chemically identical but differ in mass (page 13, line 22, to page 14, line 4; page 18, lines 14-27). Therefore the specification clearly teaches first and second compositions which are chemically identical but differ in mass. The specification further teaches that differentially labeled isotope tags are used if two different samples are to be used for comparative or quantitative analysis (page 22, line 20, to page 23, line 14). The specification also exemplifies the use of differentially isotopically labeled leucine tags, one non-deuterated and the other deuterated (page 45, line 20, to page 46, line 2). Accordingly, Applicants respectfully maintains that the specification provides sufficient teaching and guidance

for the claimed composition comprising a first and second composition have the recited structure. Therefore, Applicants respectfully request that this rejection be withdrawn.

The rejection of claims 76-86, 90, 92-99, 103 and 105-120 under 35 U.S.C. § 112, first paragraph, as allegedly lacking enablement is respectfully traversed. Applicants respectfully maintain that the specification provides sufficient description and guidance to enable the claimed compositions.

Applicants respectfully maintain that, based on the teachings in the specification and what was well known in the art, one skilled in the art would have been enabled to make and use the invention as claimed. The specification teaches a variety of "cleavable functional groups," for example, on page 15, line 11, to page 17, line 26. In particular, the specification teaches the use of photo-cleavable groups, chemical cleavable groups, cleavage of peptides using chemical or enzymatic cleavage, and cleavage of nucleic acid with an endonuclease. The specification additionally teaches a variety of tags, for example, on page 14, line 5, to page 15, line 10, including a mass tag such as an isotope tag, differentially isotopically labeled tags, charged amino acids, isotope distribution tags, and the like. The specification further teaches a variety of well known reactive groups, for example, on page 17, line 27, to page 18, line 13. Applicants respectfully maintain that one skilled in the art would have readily understood appropriate chemistries for particular functional groups based on the teachings in the specification and what was well known to those skilled in the art. Accordingly, it is respectfully submitted that the specification provides sufficient description and guidance to enable the claimed compositions. Therefore, Applicants respectfully request that this rejection be withdrawn.

Regarding Double Patenting

The provisional rejection of claims 76-86, 90, 92-99, 103, 105-127, 132, 134, 135, 138-140 and 142-146 over claims 76-105 of copending application serial No. 10/615,320 is respectfully traversed. It is respectfully pointed out that claims 76-105 have been canceled in serial No. 10/615,320, rendering this provisional rejection moot. Accordingly, Applicants respectfully request that this provisional double patenting rejection be withdrawn.

The provisional rejection of claims 76-86, 90, 92-99, 103, 105-127, 132, 134, 135, 138-140 and 142-146 over claims 76-105 of copending application serial No. 11/142,720, which recently published on April 13, 2006, as 2006/0078906, is respectfully traversed. In reviewing publication 2006/0078906, claims 1-118 have been canceled. Accordingly, Applicants respectfully request that this provisional double patenting rejection be withdrawn.

In light of the amendments and remarks herein, Applicants submit that the claims are now in condition for allowance and respectfully request a notice to this effect. The Examiner is invited to call the undersigned agent if there are any questions.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 502624 and please credit any excess fees to such deposit account.

Respectfully submitted,

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